

ABSTRACT

This invention relates to devices and methods for carrying out multi-step and  
5 multiplex immunoaffinity binding reactions in microscopic formats. In particular, these  
devices and methods allow the user to rapidly carry out multiple immunoassays in the  
same sample volume, and to rapidly resolve the results of those immunoassays in an  
electronically assisted format. The assays may be further multiplexed in that several  
10 samples may be analyzed and visualized on the same microelectronic array. In addition,  
the methods and procedures of the invention allow the use of electronic stringency to  
further improve the specificity and accuracy of the immunoassays on the microelectronic  
array devices